

# Review of the **Emission Reduction Credit System** in the San Joaquin Valley Air Pollution Control District

Presented by Courtney Graham and Brian Clerico  
Enforcement Division  
California Air Resources Board  
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# Agenda

- Regulation of Air Pollution
- Emission Reduction Credits
- Proposed CARB Review
- Status of Implementation
- Public Process
- Next Steps

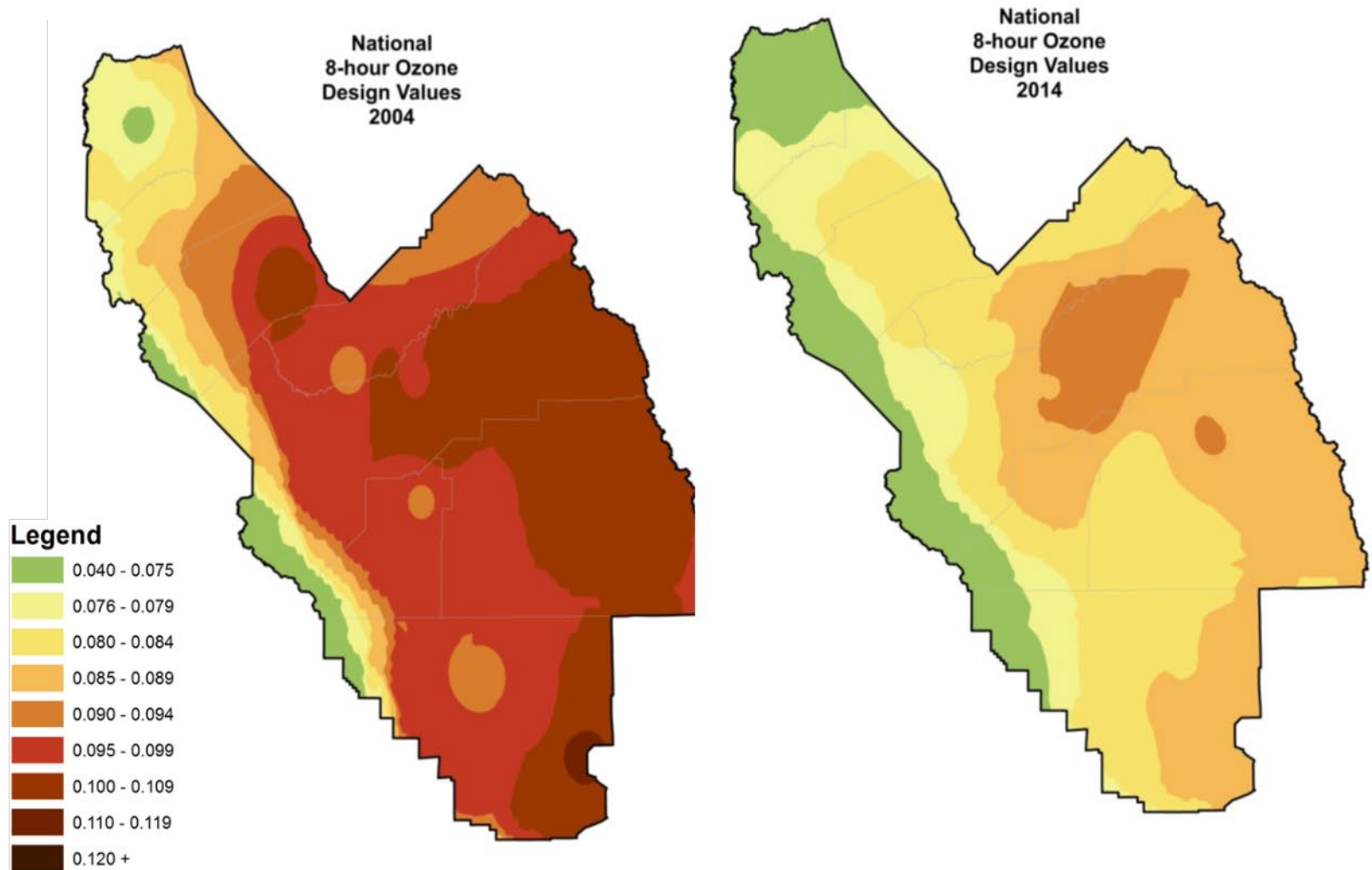
# Air Quality - Standards

- Laws define an acceptable level of pollution in air
  - Federal government sets National Ambient Air Quality Standards (NAAQS)
  - California establishes standards that are generally more health-protective than federal standards
- Areas that do not meet a standard are designed as **non-attainment** for that air pollutant

# Air Pollutants

- $O_3$  – ozone (not directly emitted)  
     $NO_x + VOC + \text{sunlight} \rightarrow O_3$   
     $NO_x$  – oxides of nitrogen ( $NO$ ,  $NO_2$ )  
    VOC – volatile organic compounds
- $PM_{2.5}/PM_{10}$  – particulate matter with an aerodynamic diameter of 2.5 (10) microns or less  
     $NO_x$ , VOC, ammonia, and  $SO_x$  are precursors

# SJV Air Quality Improvement



# San Joaquin Valley Air Quality Challenges

- Air pollution concentrations often exceed standards
  - Extreme non-attainment for ozone
  - Serious non-attainment for particulate matter (PM2.5)
- California submits State Implementation Plans (SIP) to the United States Environmental Protection Agency (US EPA) that describe how the San Joaquin Valley will reduce emissions to meet standards.
- Disadvantaged communities (AB 617)

# Sources of Air Pollution

Air Pollution Source Type	Examples	Primary Jurisdiction
Mobile	Automobiles, motorcycles, trucks, trains, off-road vehicles, harbor craft, ships, and airplanes	US EPA CARB
Stationary	Power plants, oil production, farming operations, manufacturing facilities	Local air districts
Area-wide	Consumer products, fireplaces, road dust	CARB Local air districts
Natural	Wildfires, windblown dust	-

# Controlling Emissions

- Local, State, and Federal regulations work in tandem to control emissions and protect public health
- Mobile sources and fuels  
Regulated by CARB
- Stationary sources  
Regulated by the San Joaquin Valley Air Pollution Control District (SJVAPCD)  
CARB and US EPA requirements also apply



# Regulation of Stationary Sources

- Comprehensive approach designed to require best available control technologies and prohibit certain types of emissions.
- District control programs require emissions reductions from many sources to protect public health (regulations).
- All significant sources are permitted.
  - Permit to Construct or Authority to Construct
    - New Source Review (NSR)
  - Permit to Operate
    - Title V for Major Sources

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# New Source Review – Legal Basis

- The Federal Clean Air Act
- Code of Federal Regulations (CFR)
- California Health and Safety Code
- District NSR rules
  - Incorporate both the California and federal regulations into one or more rules
  - Apply to major and minor stationary sources of air pollution

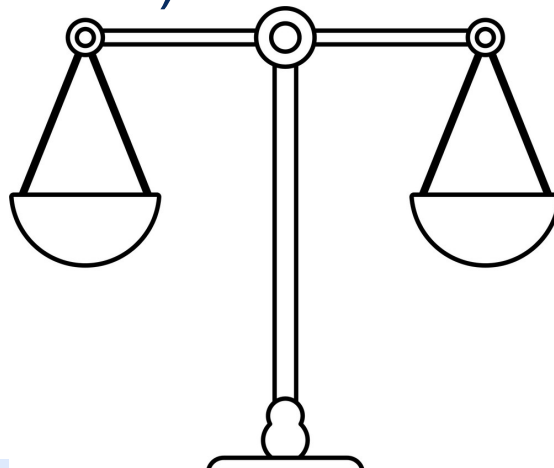
# New Source Review - Requirements

- Key features of NSR in non-attainment areas
  - Best Available Control Technology (BACT)
  - \*Computer modeling to ensure air quality standards will not be violated (SJVAPCD)
  - **Offsets**
    - “No net increase” in stationary source emissions in an air basin
    - Allows new and growing businesses to expand while ensuring overall emissions decline
  - Public notification/participation

# NSR and Offsets

- “No net increase” for sources over 10 tpy of NO<sub>x</sub> and VOC (HSC 40920, Severe)
- Every 1 pound of permitted increase in a pollutant must be **offset** by at least 1 pound of decrease.
- **Offsets** are decreases in actual emissions that must be used against newly permitted or potential increases in emissions (HSC 40709)

Decrease in emissions



Increase in emissions

# ERC Banking - What are ERCs?

- Issued by the air district
- “Certified” actual emissions reductions from
  - Voluntary emission controls
  - Permanent shutdowns of permitted sources
- Currency for offsets
  - Used mainly for air permitting
  - Value (\$) determined by market

# No Net Increase and Nearby Exposure

- NSR does allow increases in emissions at a new or modified source *at a particular location*, but these emissions increases are minimized through BACT and modeling.
- In addition, most California air districts implement a program to limit local exposure to air toxics.
- SJVAPCD implements a risk management review policy that limits exposure of nearby residents and businesses to toxic air contaminants.
- “Hot Spots” AB 2588

# ERC Banking – Conceptual Example

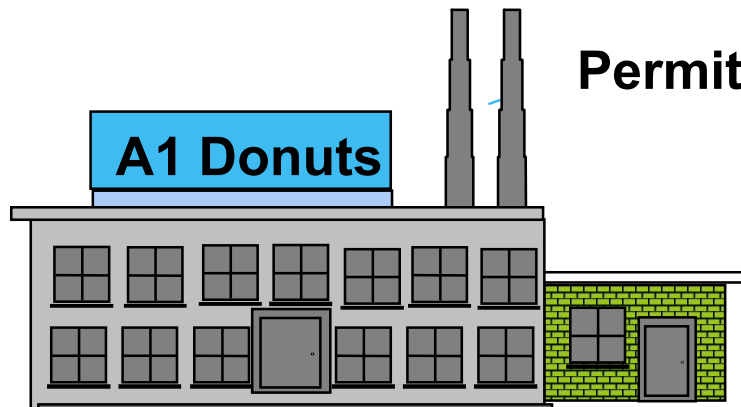
The following example illustrates how ERC banking works in its simplest elements.

SJVAPCD's banking system has additional requirements that will be described at the end of this example.



# ERC Banking - Example

**A1 Donuts** is in compliance with their air permit, which reflects the most stringent emission requirements in law.

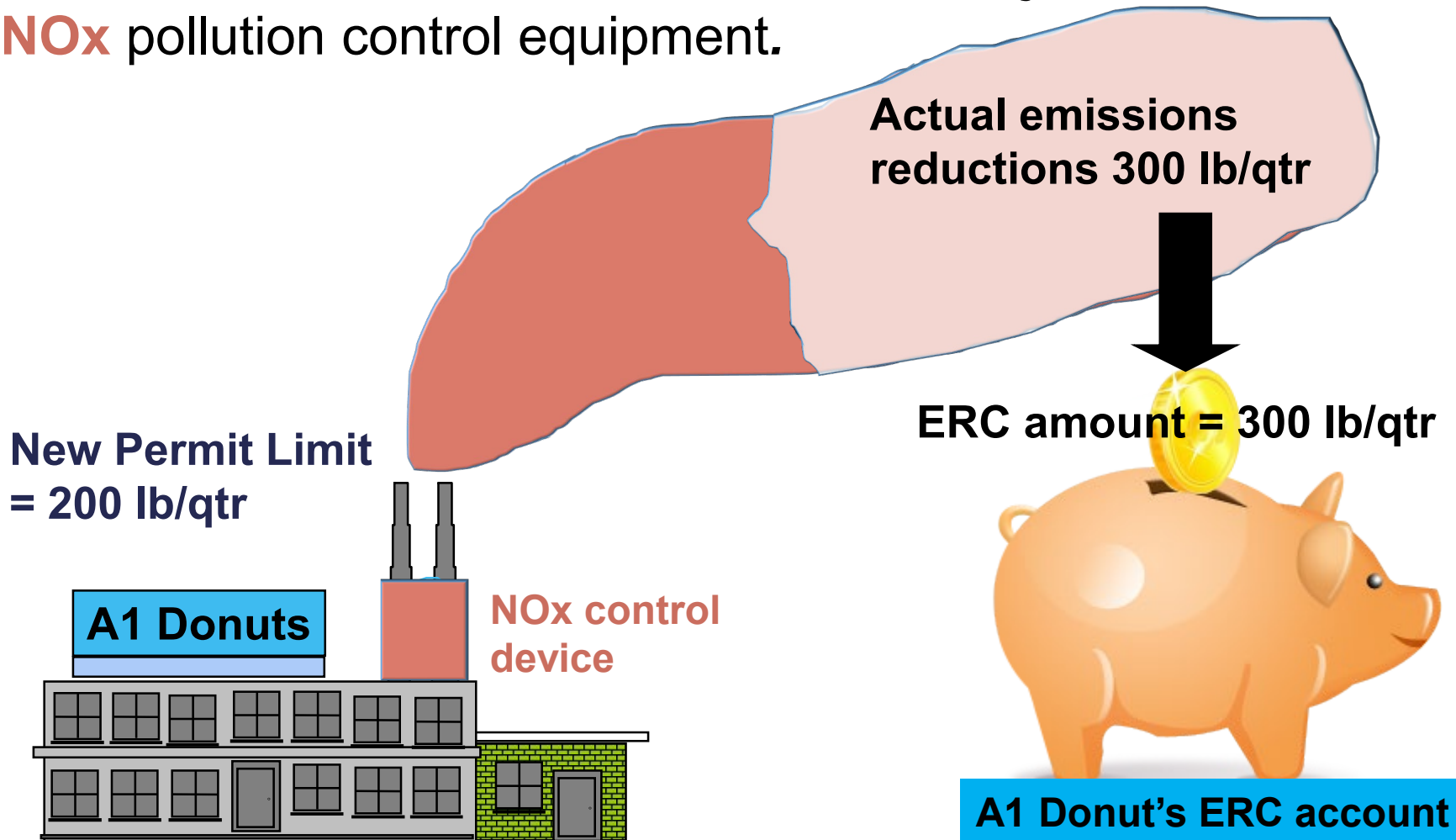


**Actual Emissions = 500 lb-NO<sub>x</sub>/qtr**

**Permit Limit = 600 lb-NO<sub>x</sub>/qtr**

# ERC Banking - Creation

At considerable cost, A1 Donuts *voluntarily* installs better **NOx** pollution control equipment.



# ERC Banking - Offsets Required

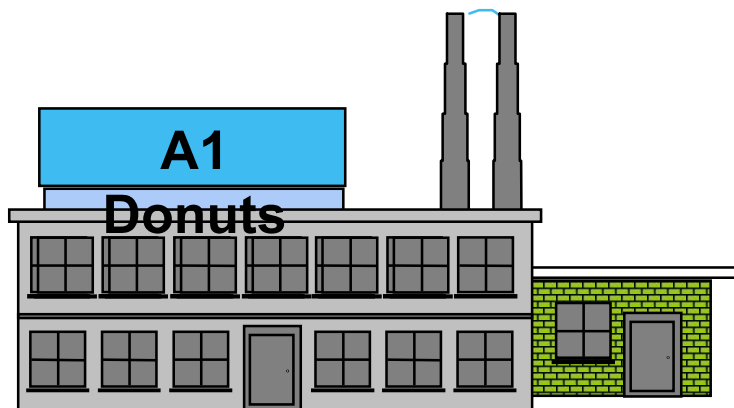
Later, **New Inc.** wants to build a new factory that has the **potential to emit 100 lb-NOx/qtr.**



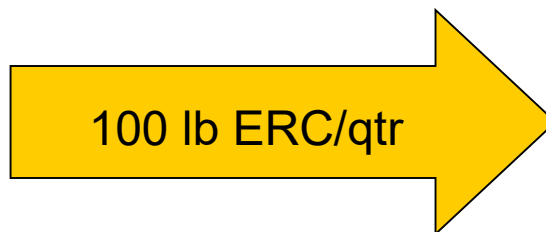
The District will not approve the construction permit until New Inc. can show it can **offset** its potential emission increase



# ERC Banking - ERC Transaction

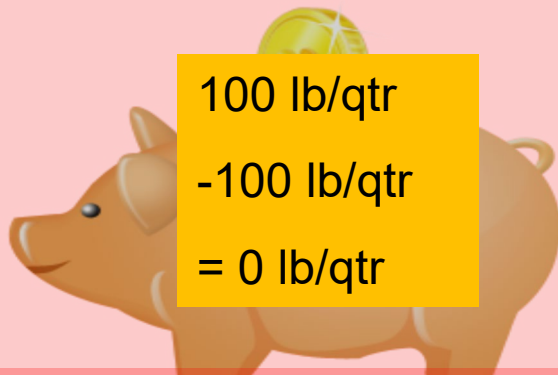


**A1 Donut's ERC account**



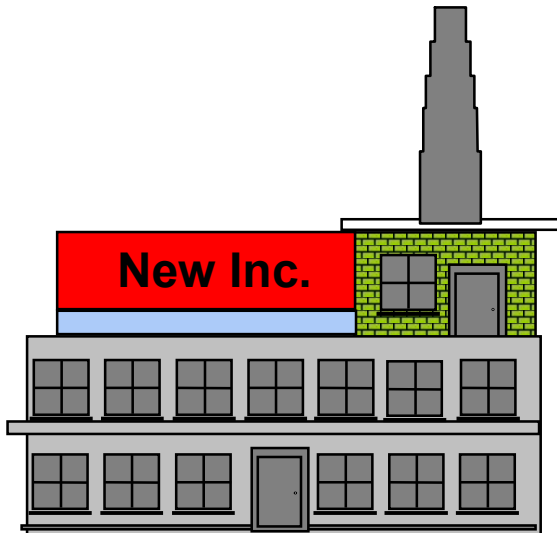
**New Inc.'s ERC account**

# ERC Banking - ERCs Retired



100 lb/qtr  
-100 lb/qtr  
= 0 lb/qtr

**New Inc.'s ERC account**



**Permit limit = 100 lb-NOx/qtr**

100 lb-NOx ERCs/qtr

Permit



The District  
permanently retires  
the ERCs

# ERC Banking – Conceptual Example

This ends the conceptual example

# Additional Requirements of SJVAPCD Offset & Banking System

- Air Quality Improvement Deduction
  - Eligible reductions are reduced by 10% before issuing them as ERCs
  - A1 Donuts' original ERC would have had a face value 270 lb and not 300 lb.
- Distance Offset Ratios
  - If the ERCs are not used at the site where the reduction occurred, the offset ratio is between 1.2 to 1.5 to 1
  - New Inc. would have to provide between 120 lb and 150 lb of ERCs to offset its 100 lb of allowed emissions.
- Offset thresholds
  - Offsets are not required until the facility potential to emit is above a threshold, e.g. NOx threshold = 20,000 lb/yr.
  - All emissions above the threshold must be offset.
  - Below the threshold, no offsets are required.

# ERC System – What is Discounting?

- An emission reduction must be surplus or “extra” before it can become certified as an ERC.
  - Beyond what is required by any applicable law or regulation, or announced rulemaking\*
- Discounting is the process of adjusting downward the amount of an emission reduction or even a previously issued ERC to ensure its value still represents only surplus emissions reductions.
- The downward adjustment can range from 0 to 100%.
  - 0% means the ERC retains its face or issued value
  - 100% discount means the ERC value goes to 0.



# ERC System - Discounting

- Under San Joaquin Valley regulation, ERCs are discounted at time of issuance
- Under federal NSR, ERCs must be discounted at time of use
- US EPA allows SJVAPCD to discount at time of issuance provided that its overall program is equivalent to federal program requirements
- SJVAPCD submits an annual equivalency determination to EPA

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# Background

- Stakeholders commissioned a study that questioned the eligibility of some ERCs in the San Joaquin Valley
- Stakeholders requested CARB review the ERC System
- In January, the CARB Board directed staff to conduct a review and report back to the Board in September 2019

# Scope of Review

*CARB staff will review the ERC System, including the equivalency determination, and explain that in the context of the broader District program for reducing emissions from stationary sources including New Source Review, permitting, and regulatory requirements.*

# Work Plan

- With the cooperation of the District, CARB staff is currently:
  - Conducting reviews of past District ERC banking applications to ensure their conformity to District rules and California and federal law.
  - Reviewing the federal offset tracking system to ensure the emission reductions required by the District's New Source Review program are at least as great as required by federal New Source Review.

# Work Plan – ERC Banking Actions

- Review banking actions to verify ERCs are based on reductions that are:
  - Real** – actual emissions, not potential
  - Quantifiable** – measurable, calculable
  - Surplus** – beyond what is required by regulation
  - Permanent** – emissions are not returning without going through New Source Review
  - Enforceable** – legally binding

# Work Plan – Emissions Reduction Program

- Review the emissions reduction program as it relates to the air permitting program as a whole, including
  - New Source Review
    - Best Available Control Technology (BACT)
    - Offsetting requirements
    - Modeling
  - Prohibitory Rules
  - Permitting
  - Transparency
- Conclusions and Recommendations

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# Work Plan Status Update - Meetings

- April 2, 2019:
  - Met with Citizens Advisory Committee (CAC) in Fresno
  - Met with District staff in Fresno
    - District explained their federal offset tracking and data management systems
- Future CAC meetings scheduled on May 7, June 4, August 6, and September 3

# Work Plan Status Update - Data

- Data Collection
  - Earthworks' report
  - Past CARB reviews of District program
  - Historical correspondence
  - District Rules
  - ERC bank data
- Data Requests to Date
  - Original banking actions
    - ERCs in Earthworks' report
    - 15 recent ERC banking actions
  - 5 ATC projects illustrating how emissions increases are handled
  - Offset equivalency tracking system documentation

# Program Review Goals

- Describe how program works
  - How were ERCs generated?
  - How are they being used?
- Objectively evaluate whether program is meeting legal requirements
  - Look more broadly at program implementation
- Determine if there are any ways the system might be improved.

# Work Plan – September Board Meeting

- Staff will provide a status update and associated report in September
- Report will be presented to the public prior to presentation to the Board
- Staff will recommend next steps to complete the review.

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# Work Plan – Integrating Public Comments

- Our work plan is draft
  - We may make adjustments based on stakeholder comments
- We are interested in what elements you would like to see included in the review
- We will keep record of all of the comments received, and present them in September as part of our report to the CARB Board.

# Public Process - Calendar

Date	Event	Location
January 24	CARB Board Meeting	The Grand at 1401 1401 Fulton St. Fresno, CA
April 30	Public Meeting	SJVAPCD offices
Mid-August	Release Draft Report	<a href="http://ww2.arb.ca.gov/our-work/programs/san-joaquin-valley-emission-reduction-credit-program-review">ww2.arb.ca.gov/our-work/programs/san-joaquin-valley-emission-reduction-credit-program-review</a>
Early September	Public Workshop	SJVAPCD offices
Mid-September	CARB Board Meeting	Cal EPA Building 1001 I St. Sacramento CA

# Public Process Goals

- We will be as open and transparent as possible
  - Our website contains:
    - Historical documents relevant to the review:  
<https://ww2.arb.ca.gov/our-work/programs/san-joaquin-valley-emission-reduction-credit-program-review>
    - Documents related to this review, including our staff reports.
    - We will take, respond to, and publish comments in our report.
- We want stakeholder input
  - Upcoming public meetings
  - Discussions with individual stakeholders



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# Next Steps

- Listen and note public comments
- Update our work plan based on comments received
- Continue the evaluation
- Meet with stakeholders as requested
- Prepare draft report and distribute to the public in August
- Hold public meeting in early September
- Report to Board in mid-September

# CARB Enforcement Division Contacts

**Todd Sax, Division Chief**

[todd.sax@arb.ca.gov](mailto:todd.sax@arb.ca.gov)

Ph (916) 229-0884

**David Mallory, Manager**

[david.mallory@arb.ca.gov](mailto:david.mallory@arb.ca.gov)

Ph (916) 229-0712

**Steve Brisby, Branch Chief**

[steve.brisby@arb.ca.gov](mailto:steve.brisby@arb.ca.gov)

Ph (916) 229-0899

**Brian Clerico, Staff**

[brian.clerico@arb.ca.gov](mailto:brian.clerico@arb.ca.gov)

Ph (916) 229-0349

**Courtney Graham, Staff**

[courtney.graham@arb.ca.gov](mailto:courtney.graham@arb.ca.gov)

Ph (916) 229-0632

**Website:** <https://ww2.arb.ca.gov/our-work/programs/san-joaquin-valley-emission-reduction-credit-program-review>

**Email:** [valleyercs@arb.ca.gov](mailto:valleyercs@arb.ca.gov)

